REMARKS

Claims 1-12 are currently pending in the subject application, and are presently under consideration. Claims 1-12 are rejected. Claims 1, 3, and 7 have been amended. Claims 4 and 10 have been canceled. Favorable reconsideration of the application is requested in view of the amendments and comments herein.

I. Rejection of Claims 1, 3-7, 9 and 10 Under 35 U.S.C. §103(a)

Claims 1, 3-7, 9 and 10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hiramatsu (US 5,180,901) in view of Fujimoto, et al. (US 5,177,802). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Claim 1 has been amended to recite the use of at least two one-dimensional biometric scanners to scan at least two biometric features of a user. Amended claim 1 is not obvious over Hiramatsu in view of Fujimoto. Hiramatsu discloses a pressure sensor and an authenticity sensor. The authenticity sensor in Hiramatsu employs an array of green light emitting diodes (LEDs) and CCDs to determine if the finger being pressed on the pressure sensor is in fact a finger, or if it is a "fake finger" based on the reflection of the light from the LEDs. In addition to the pressure sensor (an array of mechanical microsensors - see Fig. 5 of Hiramatsu) being a completely different type of sensor from the authenticity sensor (an optical sensor), neither are one-dimensional biometric scanners, as recited in claim 1. Accordingly, neither the data collected by the authenticity sensor in Hiramatsu nor the pressure sensor is a one-dimensional scanner that provides biometric data that uniquely identifies at least two scanned biometric features, as recited in amended claim 1. In sharp contrast, Hiramatsu discloses the pressing of a finger on a multi-dimensional pressure sensor while the authenticity sensor determines if the object pressed on the sensor is a real finger. Thus the pressure sensor and the authenticity sensor are not practically identical one-dimensional scanners, as recited in claim 1. Accordingly, the data from the different types of sensors taught by Hiramatsu is not being processed to obtain

biometric data that uniquely identify at least two biometric features, as recited in amended claim 1.

The addition of Fujimoto does not cure the deficiencies of Hiramatsu. The Office Action relies on Fujimoto for its teaching of three cylindrical guides respectively providing opening windows on normal lines along which a corresponding number of two-dimensional image sensors are located for picking up two or more fingerprint images and concurrently collating them. The combination of the teaching of Fujimoto with Hiramatsu, however, still fails to teach or suggest claim 1.

Fujimoto teaches an apparatus for obtaining a fingerprint using a one-dimensional image sensor to obtain finger print information for a single finger. A complex driving unit within the one-dimensional image sensor rotates about an axis, transferring small portions of the fingerprint into a synthesizing buffer while the finger (F1) is maintained in a fixed position (See Fig. 42 of Fujimoto). In contrast to the suggestion in the Office Action, no finger print scanning is performed on the second finger F2. Instead, as taught throughout Fujimoto, the second finger and supports 2112 and 2121 are employed to help hold the single finger F1 in a fixed position during scanning. Significantly, the sensors 2242 and 2243 disclosed with respect to Fig. 44A correspond to different parts of a single optical sensor; namely, 2242 corresponds to a luminous part and 2243 corresponds to a light receptacle part. Moreover, sensor parts 2242 and 2243 are employed to detect movement of the finger, and not sense biometric features as purported in the Office Action. Thus, Fujimoto contains no teaching or suggestion of using two or more one-dimensional scanners to scan at least two biometric features. Since neither Hiramatsu nor Fujimoto, taken alone or in combination, teaches or suggests scanning at least two biometric features using at least two one-dimensional image sensors, claim 1 is patentable.

Claim 3 has also been amended to recite the use of at least two one-dimensional biometric scanners to scan at least two biometric features of a user. Accordingly, claim 3 is patentable for substantially the same reasons as claim 1.

Claim 7 has been amended to recite a system that uses at least two one-dimensional biometric scanners to scan at least two biometric features of a user. Accordingly, claim 7 (as well as claim 9 depending therefrom) is patentable for substantially the same reasons as claim 1.

Claim 5 recites a relative swiping of at least two fingers across at least two practically identical one-dimensional scanners. In addition to the reasons stated above with respect to claim 1, and as admitted in the office action, Hiramatsu is silent about any relative swiping of at least two fingers across at least two practically identical one-dimensional scanners, as recited in claim 5.

In contrast to the contention in the office action, the addition of Fujimoto does not cure the deficiencies of Hiramatsu. The office action relies on Fujimoto for its teaching of a one-dimensional fingerprint sensor and Fujimoto's teaching of moving a finger along a guide to avoid the adverse affect of residual fingerprints. Fujimoto teaches an apparatus for obtaining a fingerprint using a one-dimensional image sensor where a driving unit within the one-dimensional image sensor rotates about an axis, transferring small portions of the fingerprint into a synthesizing buffer while the finger is in a fixed position. Fujimoto does not teach the relative swiping of fingers across at least two one-dimensional scanners to obtain unique biometric data that can identify the user. Instead, Fujimoto discloses that the fingers are held stationary while performing all scanning. Specifically, with respect to Fig. 42, only finger F1 is scanned, while the supporting plates and guides 2112 and 2121 hold both fingers F1 and F2 stationary. Any use of a one-dimensional image sensor taught by Fujimoto requires the finger to be in a fixed position, and only a single finger print is obtained by such one-dimensional sensor. Nothing in Fujimoto would suggest employing two practically identical one-dimensional scanners to scan at least two finger prints, as recited in claim 5. Any such conclusion appears to be based on improper hindsight in which the present application provides the missing motivation to modify the combination of Hiramatsu and Fujimoto. Moreover, such a modification appears contrary to Hiramatsu, which teaches using two different types of sensors, one type for authenticity and another type for sensing finger prints by detecting pressure.

Accordingly, the combination of the teaching of Fujimoto with Hiramatsu thus still fails to teach or suggest claim 5, as neither Hiramatsu nor Fujimoto, taken individually or in combination, teaches or suggests the relative swiping of a finger across two practically identical one-dimensional scanners, as recited in claim 5. Accordingly, claim 5 is patentable.

Claim 6, depends from claim 5 and is allowable for at least the same reasons as claim 5. Claim 6 recites the scanning of at least two fingerprints using a single, logically segmented one-dimensional scanner. Fujimoto teaches the scanning a single fingerprint using the sensor of Fig. 42. The Office Action mentions that Fujimoto "talks about two fingers F1 and F2." However, a further reading of the applicable sections of Fujimoto makes clear that only finger F1 is ever scanned. There simply is no suggestion or mention of a logically-segmented one-dimensional scanner to scan at least two fingerprints, as recited in claim 6. Accordingly, the conclusion in the Office Action appears find no support in Fujimoto or Hiramatsu. Since neither Hiramatsu nor Fujimoto, taken alone or in combination, teaches or suggests scanning the use of at least two one-dimensional scanners to scan at least two fingerprints simultaneously by relative swiping, as recited in claim 6, claim 6 is allowable and its allowance is respectfully requested.

For the reasons described above, claims 1, 3, 5-7, and 9 should be patentable over the cited art. Accordingly, reconsideration and allowance of these claims are respectfully requested.

II. Rejection of Claims 2, 11, and 12 Under 35 U.S.C. §103(a)

Claims 2, 11, and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hiramatsu (US 5,180,901) in view of Riganati (US 4,151,512). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Claim 2 recites the use of at least two practically identical biometric scanners to scan at least two biometric features of a user. As described *supra*, Hiramatsu discloses a pressure sensor and an authenticity sensor. These sensors are different types of sensors; namely, an optical

sensor and a mechanical sensor for sensing undulations in the skin. Hiramatsu does not teach or suggest the processing data from at least two practically identical one-dimensional scanners to obtain biometric data that uniquely identifies at least two scanned biometric features, as recited in amended claim 2. Moreover, as admitted in the office action, Hiramatsu is silent on processing at least two processors operating in parallel as recited in claim 2.

The addition of Riganati does not cure the deficiencies of Hiramatsu. Riganati teaches a system that can scan a plurality of fingerprints in parallel or in serial and feed the information from the scan to an information processor. The "parallel" reference in Riganati concerns the scanning of fingerprints (*i.e.*, that multiple fingerprints can be scanned at the same time). Significantly, the cited section in Riganati that is relied upon by the Office Action explicitly mentions only the use of "a single information processor" (Col. 7, line 51). Therefore, Riganati does not teach or suggest processing data from at least two scanners in at least two processors operating in parallel to obtain biometric data that uniquely identifies the scanned biometric features, as recited in claim 2. Since the teachings of Hiramatsu and Riganati, either individually or in combination, fail to teach or suggest the use of at least two processors operating in parallel as recited in claim 2, claim 2 is patentable.

In addition to reciting at least two practically identical one-dimensional fingerprint scanners, claims 11 and 12 recite two processors ordinarily in parallel, each including conversion logic, for processing data from at least two scanners to obtain biometric data that uniquely identify the scanned biometric features. The conversion logic further includes converting the one-dimensional scanner data to two-dimensional scanner data.

The addition of Riganati, however, does not overcome the deficiencies of Hiramatsu. That is, as described above with respect to claim 2, neither Riganati, Hiramatsu, nor any other art of record teaches or suggests two processors that process data from at least two practically identical one-dimensional scanners, as recited in claims 11 and 12.

Claim 12 further recites that the at least two practically identical one-dimensional fingerprint scanners combine to form a single logically segmented one-dimensional scanner. As described above with respect to claim 6, neither Hiramatsu, Fujimoto nor Riganati teach or suggest using at least two practically identical one-dimensional fingerprint scanners that are combined to form a single logically segmented one dimensional scanner, as recited in claim 12.

Since the teachings of Hiramatsu and Riganati, either individually or in combination, fail to teach or suggest the structural and functional interrelationships recited in claims 11 and 12, claims 11 and 12 are patentable.

For the reasons described above, claims 2, 11, and 12 are patentable over the cited art. Accordingly, withdrawal of this rejection and allowance of these claims are respectfully requested.

III. Rejection of Claim 8 Under 35 U.S.C. §103(a)

Claim 8 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Hiramatsu (US 5,180,901) in view of Fujimoto (US 5,177,802) and in further view of Riganati (US 4,151,512). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Claim 8 depends from claim 7, and is allowable for at least the same reasons as claim 7. Additionally, as mentioned above with respect to claim 2, Riganati fails teach or suggest processing data from at least two scanners in at least two processors operating in parallel, but instead teaches only the use of "a single information processor" (Col. 7, line 51).

For the reasons described above, claim 8 should be patentable over the cited art. Accordingly, withdrawal of this rejection is respectfully requested.

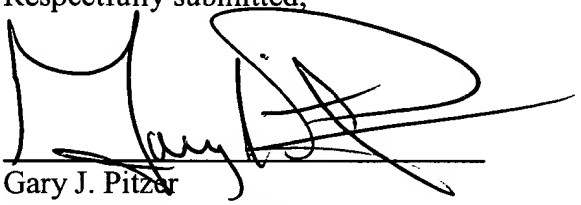
IV. CONCLUSION

In view of the foregoing remarks, Applicant respectfully submits that the present application is in condition for allowance. Applicant respectfully requests reconsideration of this application and that the application be passed to issue.

The Examiner is invited to call the undersigned to expedite further prosecution of this application.

Please charge any deficiency or credit any overpayment in the fees for this amendment to our Deposit Account No. 20-0090.

Respectfully submitted,



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